

Amendment Dated April 15, 2004

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1-4. (Cancelled without prejudice)

5. (new) Process for the production of a superconducting cable having a cable core, which contains at least one elongated superconducting element, and a flexible tube, which surrounds the cable core, said process comprising the steps of:

- (a) the cable core is pulled continuously from a supply unit;
- (b) a metal strip is pulled continuously from a strip supply unit;
- (c) the metal strip is formed continuously around the cable core to form a slotted tube; the longitudinal slot is welded shut; and then the welded tube is corrugated, where the inside diameter of the corrugated tube is larger than the outside diameter of the cable core;
- (d) the superconducting cable consisting of the cable core and the corrugated tube is wound up on a cable drum, or the superconducting cable is laid to form at least one turn; and
- (e) the ends of the cable core are then mechanically joined to the ends of the corrugated tube while the cable is on the cable drum or is lying in at least one turn.

6. (new) Process according to Claim 5, wherein the forming of the metal strip into a tube or the corrugation of the welded metal tube is carried out in such a way that the

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cable core has an excess length  $\Delta l$  in the corrugated metal tube, which is calculated according to the formula  $\Delta l = (R - r)\Pi \times 2a$ , where R is the inner radius of the corrugated tube, r the outer radius of the cable core, and a the number of turns.

7. (new) Process according to Claim 5, wherein the excess length  $\Delta l$  is at least 0.25%.

8. (new) Process according to Claim 5, wherein the cable core contains a high-temperature superconductor.